

REMARKS

Applicants request entry of this amendment and reconsideration of the rejection of the claims.

Applicants have amended claims 5 and 9. Claim 5 has been amended to correct an obvious typographical error. Claim 9 has been amended to clarify the subject matter of the claim. Applicants submit the amendments are supported throughout the specification and do not represent new matter.

Claim Objection

The examiner objected to claim 5 for retention of an underline. Applicants have removed the underline from the claim and request withdrawal of the objection of the claim.

35 U.S.C. § 112, 2nd paragraph

The examiner rejected claim 9 under 35 U.S.C. § 112, 2nd paragraph for indefiniteness. The examiner contends that the units for specific weight should be g/m^3 rather than g/m^2 . While not acquiescing to the rejection and solely to expedite prosecution, Applicants have amended the claim to no longer refer to “specific” weight. Applicants request withdrawal of the rejection.

35 U.S.C. § 103

The examiner rejected claims 1-6 under 35 U.S.C. § 103 in view of Qiagen in view of U. S. Patent No. 5, 480, 972 (‘972) and U. S. Patent No.6,177,278 (‘278) and Webster’s Dictionary. Applicants respectfully traverse.

To make a *prima facie* case of obviousness, the teachings of the prior art should have suggested the claimed subject matter to the person of ordinary skill in the art, and all the claim limitations must be taught or suggested in the references cited by the Examiner. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). As articulated by the Supreme Court in a recent case, a combination is obvious if it is no more than the predictable use of known elements according to their established functions; and there was a reason to combine the known elements. *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. ___ (2007). To make a *prima facie* case of obviousness, “it remains

necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” *Id.* A dependent claim is not obvious if the claim from which it depends is not obvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). The initial burden to make a *prima facie* case of obviousness is on the Examiner. *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993). Applicants submit that the Examiner does not make a *prima facie* case of obviousness, because all the limitations of the present claims are not taught by the combination of references cited in the Office Action.

Applicants submit that the Qiagen reference is directed to methods of purification of DNA and not to methods of preparing a sample substantially free of genomic DNA. The reference does not disclose at least the steps of collecting the effluent from the prefiltration column and contacting the effluent with a silicon carbide whisker column, whereby nucleic acids are bound to the silicon carbide column. Since the method described in the reference is a method for isolating DNA, which is eluted from the resin, there would be no need to contact the effluent to a silicon carbide whisker column. In addition, the material used to bind DNA in the Qiagen et al reference is an anionic resin and there is no teaching or suggestion of the use of a glass or borosilicate filter to bind genomic DNA. In fact, such a filter would not be necessary since the anionic resin binds the DNA.

The deficiencies in the Qiagen et al. reference are not remedied by reference to the ‘972 or ‘278 patent. The ‘972 patent describes isolation of RNA using an oligo dT column. There is no teaching or suggestion of a prefiltration column comprising a glass or borosilicate filter that binds genomic DNA. Moreover, the two columns discussed by the examiner are the same type of column – both are oligo dT columns. There is no discussion of collecting the effluent from the prefiltration column and contacting the effluent with a silicon carbide whisker column, whereby nucleic acids are bound to the silicon carbide column. Thus, even in combination with Qiagen the reference do not teach all of the elements of the claims.

The ‘278 patent is directed to isolation of DNA and RNA using a silicon carbide column. There is no discussion in this reference of using a prefiltration column comprising a glass or borosilicate filter that binds genomic DNA, as such a filter would not be necessary as DNA binds to the silicon carbide column. In addition, this patent indicates that both DNA and RNA are

bound to the column and does not provide any information about how DNA can be separated from RNA using the silicon carbide column. Thus, even when combined with the other cited references, all of the elements of Applicants' claims are not disclosed.

In addition, applicants submit one of ordinary skill in the art would not have a reason to combine these references as at least, the Qiagen et al reference and the '972 patent are directed to methods using different types of resins to bind nucleic acids. In the case of Qiagen et al, the reference is directed to purifying DNA using an anionic resin that binds the DNA. There is no mention of preparing a sample substantially free of genomic DNA. Secondly, the '972 reference is directed to using an oligo dT column to bind mRNA. This type of resin is different from either the glass or borosilicate filter or the silicon carbide column. Finally, the '278 reference describes isolation of RNA and DNA and does not teach or suggest preparing a sample free of genomic DNA using the silicon carbide column or how such a sample could be achieved. Applicants submit that one of skill in the art would not combine these methods because the type of resins used are not interchangeable and do not serve the same purpose, and the '278 patent indicates that the silicon carbide column binds both DNA and RNA.

Based on the foregoing, Applicants request withdrawal of the 35 U.S. C. 103 rejection.

The examiner rejected claim 7 under 35 U.S.C. § 103 in view of Qiagen in view of U. S. Patent No. 5, 480, 972 ('972) and U. S. Patent No. 6,177,278 ('278), Webster's Dictionary and further in view of U. S. Patent No. 3,414,394 ('394). Applicants respectfully traverse.

As discussed above, the cited references do not teach or suggest all of the elements of the claims and there would be no reason to combine these references. The arguments concerning Qiagen, '972 patent, and '278 patent are incorporated herein.

The '394 patent does not remedy the deficiencies of any of the cited references. This reference is directed to forming a glass filter. There is no discussion in this reference of a prefiltration column comprising a glass or borosilicate fiber, or contacting effluent from the prefiltration column with a silicon carbide whisker column. The only sample type mentioned is water. Thus, even when combined with the other cited references, all of the elements of the claims are not disclosed. Applicants request withdrawal of the rejection.

The examiner rejected claims 8 under 35 U.S.C. § 103 in view of Qiagen in view of U. S. Patent No. 5, 480, 972 ('972) and U. S. Patent No.6,177,278 ('278), Webster's Dictionary and further in view of U. S. Patent No. 6,383,393('393). Applicants respectfully traverse.

As discussed above, the cited references do not teach or suggest all of the elements of the claims and there would be no reason to combine these references. The arguments concerning Qiagen et al., '972 patent, and the '278 patent are incorporated herein.

The '393 patent does not remedy the deficiencies of any of the cited references. This reference is directed to isolating nucleic acids from other cell components, in particular, isolation of DNA. There is no discussion in this reference of a method for preparing a sample free of genomic DNA using a prefiltration column comprising a glass or borosilicate fiber, or contacting effluent from the prefiltration column with a silicon carbide whisker column. Thus, even when combined with the other cited references, all of the elements of the claims are not disclosed. Applicants request withdrawal of the rejection.

The examiner rejected claim 8 under 35 U.S.C. § 103 in view of Qiagen in view of U. S. Patent No. 5, 480, 972 ('972) and U. S. Patent No.6,177,278 ('278), Webster's Dictionary and further in view of Aldrich Chemical Company Catalog. We assume that the Examiner is referring to claim 9. Applicants respectfully traverse.

As discussed above, the cited references do not teach or suggest all of the elements of the claims and there would be no reason to combine these references. The arguments concerning Qiagen et al., '972 patent, and the '278 patent are incorporated herein.

The Aldrich Chemical Catalog does not remedy the deficiencies of any of the cited references. This reference is directed to describing glass filters. There is no discussion in this reference of a prefiltration column comprising a glass or borosilicate fiber, wherein the genomic DNA is bound to said filter material or contacting effluent from the prefiltration column with a silicon carbide whisker column. Thus, even when combined with the other cited references, all of the elements of the claims are not disclosed. Applicants request withdrawal of the rejection.

The examiner rejected claims 24-36 under 35 U.S.C. § 103 in view of Qiagen in view of U. S. Patent No. 5, 480, 972 ('972) and U. S. Patent No.6,177,278 ('278), Webster's Dictionary and further in view of U.S. Patent No.5,006,472 ('472). Applicants respectfully traverse.

As discussed above, the cited references do not teach or suggest all of the elements of the claims and there would be no reason to combine these references. The arguments concerning Qiagen et al., '972 patent, and the '278 patent are incorporated herein.

The '472 patent does not remedy the deficiencies of any of the cited references. This reference is directed to contacting a sample with a DNAase. There is no discussion in this reference of a prefiltration column comprising a glass or borosilicate fiber, wherein the genomic DNA is bound to said filter material or contacting effluent from the prefiltration column with a silicon carbide whisker column. The only separation methods identified include precipitation, ion exchange, and size exclusion. Thus, even when combined with the other cited references, all of the elements of the claims are not disclosed. Applicants request withdrawal of the rejection.

The examiner rejected claim 37 under 35 U.S.C. § 103 in view of Qiagen in view of U. S. Patent No. 5, 480, 972 ('972) and U. S. Patent No. 6,177,278 ('278), Webster's Dictionary and further in view of U.S. Patent No. 5,006,472 ('472) and U.S. Patent No. 4,996,144 ('144). Applicants respectfully traverse.

As discussed above, the cited references do not teach or suggest all of the elements of the claims and there would be no reason to combine these references. The arguments concerning Qiagen et al., '972 patent, and the '278 patent are incorporated herein.

The '144 patent does not remedy the deficiencies of any of the cited references. This reference is directed to detecting RNA or DNA in cells using hybridization. Samples are treated with RNAase or DNAase to remove either RNA or DNA respectively, before hybridization. There is no discussion in this reference of a prefiltration column comprising a glass or borosilicate fiber, wherein the genomic DNA is bound to said filter material or contacting effluent from the prefiltration column with a silicon carbide whisker column. Thus, even when combined with the other cited references, all of the elements of the claims are not disclosed. Applicants request withdrawal of the rejection.

SUMMARY

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,
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Date:

August 3, 2007

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